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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,844	12/21/2004	Benoit Saliou	FR 020068	1283

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EXAMINER

KIM, TAE K

ART UNIT	PAPER NUMBER
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2109

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/518,844

Applicant(s)

SALIOU ET AL.

Examiner

Tae K. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 8-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date March 15, 2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

This is in response to the application filed on December 21, 2004 where Claims 1 – 14, of which Claims 1 and 2 are in independent form, are presented for examination.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 02291623.3, filed on June 28, 2002 in Germany.

Claim Objections

Claims 8 and 9 are objected to because of the following informalities:
parameterized is misspelled. Appropriate correction is required.

Claims 10 and 11 are objected to under 37 CFR 1.75(c) as being in improper form because a dependent claim cannot depend on a multiple dependent claim. See MPEP § 608.01(n). Accordingly, the Claims 10 and 11 have not been further treated on the merits.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 14 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A signal is non-statutory.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 8, 9, and 12 – 14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Application 2001/0011347 A1 filed by Shanthala Narayanaswamy et al. (hereinafter referenced as “Narayanaswamy”).

1. Regarding Claim 1, Narayanaswamy discloses a transmission system and a method (Title; Fig. 3; Para. 0007, 0008, and 0009) of downloading software programs into a storage unit, the software programs including a boot code and an application code (Para. 0003 and 0004; upgrading and remapping of the boot and main firmware codes), the boot code allowing downloading of the application code (Para. 0035, 0036, and 0038; boot code checks data to determine if new main firmware is available, then downloads new firmware), the storage unit comprising at least a current boot code (Para. 0007; two separate regions to store boot code, one active, one inactive), the method comprising of: upon a download request, downloading a new boot code in a location, which does not overwrite the current boot code (Para. 0007; two separate regions to store boot code, one active, one inactive; download new boot code into inactive region); indicating that the new boot code replaces the current boot code (Para. 0029 and 0030; upon verification of download, terminal reboots and overwrites the processor vector table with the vector table copy of the new boot code); downloading a new application code associated to the new boot code in a location which does not overwrite the new boot code (Para. 0035, 0036, 0037, and 0038; if new main firmware is found, it is downloaded to another memory location separate from boot codes and old

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firmware); and indicating that the new application code is valid (Para. 0038; reset command after successful transfer).

2. Regarding Claim 2, Narayanaswamy discloses a transmission system and a method (Title; Fig. 3; Para. 0007, 0008, and 0009) of downloading software programs into a storage unit, the software programs including a boot code and an application code (Para. 0003 and 0004; upgrading and remapping of the boot and main firmware codes), the boot code allowing downloading of the application code (Para. 0035, 0036, and 0038; boot code checks data to determine if new main firmware is available, then downloads new firmware), the storage unit comprising at least a current software program stored including a current boot code stored in the storage unit at a first position (Para. 0007; two separate regions to store boot code, one active, one inactive; download new boot code into inactive region), the method comprising of: defining a boot sector for jumping to a position of the storage unit where a boot code is stored in order to validate the use of said boot code (Para. 0007; two separate regions to store boot code, one active, one inactive; download new boot code into inactive region and use active boot code until update is complete), the boot sector initially pointing at the first position, where the current boot code is stored (Para. 0007, 0029, and 0030; vector table points to "active" boot code until restart); upon a download request, downloading a new software program in a second position including a new boot code and a new application code (Para. 0007, 0035, 0036, 0037, and 0038; new firmware includes boot code and main code, which are all downloaded in different memory sectors); jumping to the second position where the new boot code is stored (Para. 0007; two separate

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regions to store boot code, one active, one inactive; download new boot code into inactive region and use active boot code until update is complete).

3. Regarding Claim 8, Narayanaswamy discloses all the limitations of Claim 2 above. Narayanaswamy further discloses that the new software program includes an intermediate application code, which is a link between the current application code and the new application code enabling a user to parameterize the new software program (Para. 0034, 0035, 0036, 0037, 0038; the application requests the active boot code to start checking a checksum on the data to verify that there is new firmware and confirms the checksum after the transfer is complete).

4. Regarding Claims 9 and 12 – 14, Narayanaswamy discloses all the limitations of Claims 1, 2, and 8 above and further discloses a transmission system comprising of a transmitter for transmitting software programs and at least a receiver for receiving software programs transmitted by a transmission system (Fig. 3; transmission of new codes are from a separate computer and then received and processed by microprocessor within the electronic device), the receiver comprising means for carrying out the method as claimed in any one of Claims 1 to 8. Narayanaswamy also discloses of a computer program product for a receiver computing a set of instructions, which when loaded into the receiver, causes the receiver to carry out the method as claimed in any one of Claims 1 to 8 (Para. 0003; main code is used for regular operation of the device). Furthermore, Narayanaswamy discloses of a signal for carrying a computer program, the computer program being arranged to carry out the method as claimed in

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Claim 1 (Fig. 3; transmission from a transmitter to a receiver can be by either analog or digital signal).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 – 7, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narayanaswamy as applied to Claims 1, 2, 8, and 9 above, and further in view of U.S. Patent 6,205,458 B1 invented by Robert N. Hasburn (hereinafter referenced as “Hasburn”).

5. Regarding Claims 3 and 5, Narayanaswamy discloses all the limitations of Claim 2 as stated above. However, it does not specifically disclose that the step of jumping to the second position where the new boot code is stored is followed by replacing the current boot code with the new boot code at the first position and then jumping to the first position. It also does not disclose the boot sector is located in a protected storage area separate from the storage unit.

Hasburn discloses that flash memory is used for storing boot code and that these flash memory cells cannot be rewritten with new data without first erasing them (Col. 3, Lines 61-67; Col. 4, Lines 3-5). Hasburn also discloses that the boot code is normally stored in ROM or flash memory, which is in a different location than RAM, the primary storage unit (Fig. 1; Col. 1, Lines 20-25 and 53-56). It would be obvious to one skilled in

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the art to combine the teaching of Hasburn with Narayanaswamy since many electronic devices use flash memory or ROM to store boot and other types of code. By initially storing the downloaded code another section of rewritable non-volatile storage space (RAM or even the hard drive), the new code can then be stored into the flash memory cells once the old code has been erased. The electronic device will still use the same memory section to retrieve boot code and allows the device to use the same boot vectors, eliminating the need to rewrite the boot vectors or the use of interrupts.

6. Regarding Claims 4 and 6, Narayanaswamy discloses all the limitations of Claim 2 as stated above. However, it does not specifically disclose that the boot sector is located in a protected storage area of the storage unit. It also does not disclose that the current boot code is stored in a protected area of the storage unit, which area can be unprotected to be overwritten under specific software conditions.

Hasburn discloses that portions of the rewritable non-volatile memory can be locked so that its contents cannot be erased or modified (Col. 2, Lines 16-19). Hasburn also discloses that the storage area can be unprotected upon specific software conditions that change the block sector value (See Fig. 6; Col. 7, Lines 6-10, 14-18). It is obvious to one skilled in the art that portions of the memory used to store boot code would be protected. It is also obvious that these sections may be unlocked to have that area rewritten with updated boot code. The boot code is used during the initialization of a computer system and any corruption or erasure of the code will not allow the system to operate properly, particularly upon startup or restart. Furthermore, it is necessary to

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update the boot code when there are changes to the operating system or hardware on the electronic device.

7. Regarding Claim 7, Narayanaswamy discloses all the limitations of Claim 2 as stated above. However, it does not specifically disclose that the new software program is stored in an area of the storage unit, which area can be protected and unprotected, to be overwritten under specific software conditions.

Hasburn discloses that the storage area can be unprotected upon specific software conditions that change the block sector value (See Fig. 6; Col. 7, Lines 6-10, 14-18). This process can be used regardless of the data that is being stored in these storage areas; it can be used to update software. It is obvious to one skilled in the art to use this method of updating application software to prevent the electronic device from running corrupt or incomplete code. This will prevent the delay of reinstalling the application software when it does not operate properly due to an incomplete update.

8. Regarding Claims 10 and 11, Narayanaswamy discloses all the limitations of Claim 9 as stated above. However, it does not disclose the use of a file system nor that the storage unit is a persistent memory allowing protecting/unprotecting memory area upon software instructions.

Hasburn discloses a file system using multiple address locations in the storage area (See Fig. 2, 3, and 7; Abstract; shows multiple address blocks and the use of an address decoder to select the particular memory block). Hasburn also discloses that the protected storage area can be unprotected upon specific software conditions that change the block sector value (See Fig. 6; Col. 7, Lines 6-10, 14-18). It would be

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obvious to use the same memory blocks to toggle between active and inactive (unprotected) sections to store software. This will prevent the delay of reinstalling the application software when it does not operate properly due to an incomplete update. Furthermore, this allows the application to use the same addresses to store the software.

Additional References

Additional references that are relevant to the pending application and not cited:

U.S. Patent 6,119,226; U.S. Patent 6,457,038 B1; U.S. Appl. 2002/0095619 A1; U.S. Appl. 2002/0194387 A1; U.S. Appl. 2003/0084342 A1; U.S. Appl. 2002/0105955 A1

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae K. Kim, whose telephone number is (571) 270-1979. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Coby, can be reached on (571) 272-4017. The fax phone number for submitting all Official communications is (703) 872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the examiner at (571) 270-2979.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

TKK

7/21/2007


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SUPERVISORY PATENT EXAMINER